

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)

The Petition of the National)
Public Safety Telecommuni-)
cations Council (NPSTC) For)
Further Rulemaking To Allocate)
Spectrum In The 138-144 MHz)
Band For Public Safety)

RM 92-74

To: The Commission

COMMENTS OF
The California Highway Patrol

INTRODUCTION

Comprising 4.3% of the aggregate area of the fifty United States, California's 163,707 square miles are comprised of deserts, rugged mountainous terrain reaching to 14,494 feet above sea level, valleys as low as -282 feet below sea level, 840 miles of pacific coastline, numerous rivers and lakes, and a diversity of woodland and vegetation types and densities.

According to current U.S. Census Bureau figures, approximately one out of every eight US citizens resides in California with its disproportionate population of 32.2 million (as compared with current figures of 19.4 million for Texas, or 18.1 million for New York State, ranking second and third respectively in State populations)....and the California Department of Finance projects that by the year 2040, 63 million people will reside in California virtually doubling its current population.

California's 20.5 million licensed residents drive their 26 million registered vehicles more than 281 billion vehicle miles annually, traversing California's 170 thousand miles of public maintained roads and highways. In Los Angeles and Ventura counties alone (home to nearly a third of California's population), more than 91 million vehicle miles are traveled on 615 miles of freeway and 567 miles of highway each day.

The Department of California Highway Patrol (CHP) is the State's primary law enforcement agency commissioned with ensuring safety and service to this resident population as well as to California's 44 million yearly visitors.

Traditionally, CHP's primary objective has been the management and regulation of traffic in order to achieve safe, lawful and efficient use of California's transportation system. Since the Department absorbed the duties and personnel of the California State Police (CSP) in July 1995, the CHP is also now responsible for all crimes occurring on State property, the security of State property, and dignitary protection. As a Statewide law enforcement agency, the CHP also supports city and county law enforcement agencies and stands ready to assist in emergencies that exceed local resource capabilities.

CHP has over 6,700 peace officers statewide, and an additional 3,300 non-uniformed employees. The CHP department is divided into eight geographic divisions with 130 commands. In less populated areas, residential posts are established where an officer operates out of his or her home instead of a command. There are 33 residential posts established in the State.

The CHP's aggregate of 10,000 employees work to:

- assist in accident prevention
- respond to emergency incidents
- assist with traffic management
- minimize crime through law enforcement
- maximize service to the public in need of aid or information
- assist other public agencies

CHP's primary voice radio system is a VHF low band semi-duplex remote base station system. The system was initially designed and built more than thirty years ago. VHF low band technology has been antiquated by rapid technology advances in other public safety frequency bands primarily due to its inherent limitations, interference being principal among them. As the overall installed base of low band public safety users has declined, vendors have found it unprofitable to continue providing equipment and service for this frequency range. As a result, public safety agencies operating primary communication systems using the VHF low band spectrum are forced to move...and soon.

With a primary radio system approaching obsolescence, CHP is faced in varying degrees with the lack of effective and reliable radio communications impeding its ability to perform its most elemental mission: the protection of life and property...but CHP discovered it is not alone. The ten largest California public safety agencies share a similar plight; that is, each of California's state public safety agencies operate and maintain largely independent radio systems. Lack of interoperability, channel congestion, aging equipment and limited functionality are crippling these systems.

Without effective and reliable public safety radio communications, Californians, and those sworn to protect them, are put at significant risk. The CHP, along with the State's other public safety

agencies recognize the challenge before them, and also realize that California faces a unique window of opportunity to make desperately needed improvements to their public safety radio system(s), and that increasing competition for spectrum resources, new regulations governing wireless communications, rapidly changing technologies and rising costs are narrowing that window.

The desire to take advantage of this narrowing window of opportunity led the CHP and the other public safety agencies (providing law enforcement, fire protection, emergency response, transportation management, flood control, detention, rehabilitation, and other public safety services) and the Department of General Services to initiate a collaborative effort to develop a statewide strategy for public safety radio communications. Recognizing the potential benefits of partnering together, a Public Safety Radio Strategic Planning Committee comprised of representatives from each of these agencies was established in December of 1994. This Committee directed the coordinated effort that produced "Partnering for the Future: A Strategic Plan for California's Public Safety Radio Communications". It is in this spirit, and with interoperability as a primary objective in future state radio system endeavors, the CHP respectfully submits the following comments relative to the subject petition.

COMMENTS

The California Highway Patrol has carefully examined the subject NPSTC petition and has the following comments. California plans to submit an application for a portion of the newly allocated 24 MHz in the 746-806 MHz band. In preparation for this application, the CHP is currently funding a significant coverage modeling effort aimed at evaluating the feasibility of providing border-to-border coverage with 95% reliability and a Delivered Audio Quality (DAQ) of 3.4 at 800 MHz. CHP is aware that a radio system based upon 800 MHz requires many more sites than a comparable system based upon VHF high band; however, preliminary findings indicate the number of 800 MHz sites required in California's rugged mountainous topography may be economically unachievable. That is, with its line of site requirement, in flat-to-mildly undulating terrain, the number of 800 MHz sites required to cover a given area are far fewer than the number required to provide similar coverage to the same defined area circumscribed in moderate-to-highly undulating terrain (the type of topography found in many areas of California). A similar argument applies to unforested-to-lightly forested areas as opposed to moderate-to-heavily forested areas. This partially corroborates the subject NPSTC petition's comment that "The 800 MHz band is unusable in some types of terrain and almost always requires far more expensive equipment and many more transmitter sites to cover the same geographic area, making the band impractical and prohibitively expensive for many public safety agencies." However, it is a given that radio systems based upon VHF high band are operating successfully in varying types of terrain and foliage. The NPSTC petition included the Northern California region in its revelation that "...large portions of the country will have little or no permanent military use of the band...", referring to NTIA's release (by 2008) of 3 MHz in the VHF band at 138-144 MHz (139.0-140.5 MHz and 141.5-143.0 MHz). This renders California's use of this spectrum more achievable. In concert with the subject petition, the CHP urges this spectrum be allocated for public safety use, and not for commercial use through auctions.

Given the environmental complexities and consequential costs associated with securing transmission sites in today's marketplace, CHP believes any earnings derived from auctioning the subject 3 MHz in the VHF band will be more than offset by the significantly greater taxpayer cost realized in purchasing and developing the additional wireless transmission sites necessary to accommodate a comparable 800 MHz radio communications system, especially in areas of rugged terrain and/or heavy foliage.

RECOMMENDATIONS

The CHP recommends the 3 MHz in the VHF band at 138-144 MHz (139.0-140.5 MHz and 141.5-143.0 MHz) be allocated for public safety use, and not commercial use.


The CHP recommends the frequencies be configured in channel pairs to allow for duplex operation and mobile relay systems.

In addition, the CHP recommends that the FCC allocate a portion of the subject 3 MHz of VHF spectrum for statewide public safety agency use only.

CONCLUSION

The California Highway Patrol CHP strongly urges the Commission to proceed in the described manner to adopt our recommendations into the proposed document. The taxpayers of the State of California will greatly benefit if the proposed 3 MHz in the VHF band at 138-144 MHz is made available to public safety. Radio communications systems based upon this VHF spectrum (when compared with a comparable 800 MHz system) will permit relatively few base stations to cover large geographic areas, including areas of rugged terrain and/or heavy foliage.

Respectfully submitted,
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D. O. HELMICK, Commissioner

6-12-98
Date